

AMENDED CLAIMS

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original claims 1-24 replaced by amended claims 1-24 (6 pages)]

1. A method for enabling establishment of a connection between a node of an inside address realm and a node of an outside address realm through an intermediate communication gateway having a pool of outside-realm gateway addresses for outside-realm representation of inside-realm nodes, said method comprising the steps of:
 - centrally allocating, in response to a configuration request initiated from said inside-realm node, an outside-realm gateway address from said pool of gateway addresses and an inside node port number for said inside-realm node,
 - wherein said step of centrally allocating comprises the step of identifying, based on predetermined connection information derivable from said configuration request, an outside-realm gateway address and an inside node port number that in combination with said predetermined connection information define an outside-realm gateway state representation that has no counterpart in any existing gateway connection state;
 - initiating establishment of said connection at least partly based on the allocated outside-realm gateway address and inside node port number; and
 - transmitting the allocated outside-realm gateway address and inside node port number to the requesting inside-realm node in a configuration reply.
2. The method according to claim 1, wherein said predetermined connection information includes at least one of outside node address information and outside node port information.
3. The method according to claim 1, wherein a gateway connection state is established in said gateway based on said outside-realm gateway state representation and a representation of an inside-realm routing path between said gateway and said inside-realm node.
4. The method according to claim 1, wherein the allocated outside-realm gateway address and inside node port number are represented by an allocated socket network

address and a source port number, and the predetermined connection information includes a destination network address and a destination port number, and the outside-realm gateway state representation is defined by a unique set of socket parameters including the allocated socket network address and source port number, the destination
5 network address and the destination port number.

5. The method according to claim 1, wherein said configuration reply is a DNS (Domain Name Server) reply.

10 6. The method according to claim 5, wherein said allocated outside-realm gateway address and inside node port number are conveyed in a dedicated DNS record in said DNS reply.

15 7. The method according to claim 1, further comprising the step of said inside-realm node configuring a communication interface according to said allocated outside-realm gateway address and inside node port number.

20 8. The method according to claim 1, further comprising the step of establishing an inside-realm routing path between said gateway and said inside-realm node.

9. A system for enabling establishment of a connection between a node of an inside address realm and a node of an outside address realm through an intermediate communication gateway having a pool of outside-realm gateway addresses for outside-realm representation of inside-realm nodes, said system comprising:

25 - means for centrally allocating, in response to a configuration request initiated from said inside-realm node, an outside-realm gateway address from said pool of gateway addresses and an inside node port number for said inside-realm node,

wherein said means for centrally allocating comprises means for identifying, based on predetermined connection information derivable from said configuration request, an
30 outside-realm gateway address and an inside node port number that in combination with

said predetermined connection information define an outside-realm gateway state representation that has no counterpart in any existing gateway connection state;

- means for initiating establishment of said connection at least partly based on the allocated outside-realm gateway address and inside node port number; and

5 - means for transmitting the allocated outside-realm gateway address and inside node port number to the requesting inside-realm node in a configuration reply.

10 10. The system according to claim 9, wherein said predetermined connection information includes at least one of outside node address information and outside node port information.

15 11. The system according to claim 9, wherein a gateway connection state is established in said gateway based on said outside-realm gateway state representation and a representation of an inside-realm routing path between said gateway and said inside-realm node.

20 12. The system according to claim 9, wherein the allocated outside-realm gateway address and inside node port number are represented by an allocated socket network address and a source port number, and the predetermined connection information includes a destination network address and a destination port number, and the outside-realm gateway state representation is defined by a unique set of socket parameters including the allocated socket network address and source port number, the destination network address and the destination port number.

25 13. The system according to claim 9, wherein said configuration reply is a DNS (Domain Name Server) reply.

30 14. The system according to claim 13, wherein said allocated outside-realm gateway address and inside node port number are conveyed in a dedicated DNS record in said DNS reply.

15. The system according to claim 9, further comprising means for establishing an inside-realm routing path between said gateway and said inside-realm node.

16. A gateway resource manager for a communication gateway, said communication gateway having a pool of outside-realm gateway addresses for outside-realm representation of inside-realm nodes, said gateway resource manager comprising:

- means for allocating an outside-realm gateway address from said pool of gateway addresses and an inside node port number to be used in establishing a gateway connection state for a flow between an inside-realm node and an outside-realm node,

wherein said allocating means comprises means for identifying, based on predetermined connection information, an outside-realm gateway address and an inside node port number that in combination with said predetermined connection information define an outside-realm gateway state representation that has no counterpart in any existing gateway connection state;

- means for initiating establishment of said gateway connection state at least partly based on the allocated outside-realm gateway address and inside node port number; and

- means for transmitting the allocated outside-realm gateway address and inside node port number to said inside-realm node.

17. The gateway resource manager according to claim 16, wherein said predetermined connection information includes at least one of outside node address information and outside node port information.

18. The gateway resource manager according to claim 16, wherein the allocated outside-realm gateway address and inside node port number are represented by an allocated socket network address and a source port number, and the predetermined connection information includes a destination network address and a destination port number, and the outside-realm gateway state representation is defined by a unique set of

socket parameters including the allocated socket network address and source port number, the destination network address and the destination port number.

19. The gateway resource manager according to claim 16, wherein said means for
5 initiating establishment of said gateway connection state comprises means for requesting that said gateway establishes a gateway connection state based on said outside-realm gateway state representation and a representation of an inside-realm routing path between said gateway and said inside-realm node.

10 20. The gateway resource manager according to claim 16, wherein said allocating means performs allocation in response to a configuration request initiated from said inside-realm node, and said transmitting means transmits the allocated outside-realm gateway address and inside node port number to said inside-realm node in a configuration reply.

15 21. The gateway resource manager according to claim 20, wherein said configuration reply is a DNS (Domain Name Server) reply.

20 22. The gateway resource manager according to claim 21, wherein said allocated outside-realm gateway address and inside node port number are conveyed in a dedicated DNS record in said DNS reply.

23. A method of configuring an inside-realm communication node for communication
25 with an outside-realm communication node via a communication gateway having a pool of outside-realm gateway addresses for outside-realm representation of inside-realm nodes, said method comprising the steps of:

- centrally allocating an outside-realm gateway address from said pool of gateway addresses and an inside node port number for said inside-realm node,

wherein said step of centrally allocating comprises the step of identifying, based on

30 predetermined connection information, an outside-realm gateway address and an inside

node port number that in combination with said predetermined connection information define an outside-realm gateway state representation that has no counterpart in any existing gateway connection state;

- transmitting the allocated outside-realm gateway address and inside node port
5 number to said inside-realm node; and
- configuring said inside-realm communication node according to the allocated outside-realm gateway address and inside node port number.

24. An inside-realm communication terminal arranged for communication with any of
10 a number of outside-realm hosts via a communication gateway having a pool of outside-realm gateway addresses for enabling outside-realm representation of inside-realm communication terminals, said communication terminal comprising:

- means for requesting, in a modified DNS (Domain Name Server) query, central configuration for communication with a selected one of said outside-realm hosts;
- 15 - means for receiving a DNS configuration reply including an allocated outside-realm gateway address and an allocated terminal port number, said allocated outside-realm gateway address and said allocated terminal port number being arranged in a dedicated DNS record in said configuration reply;
- means for configuring a communication interface according to said outside-
20 realm gateway address and said terminal port number.
